



Wind Project Permitting and Critical Issues

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*The Specialists in Wind
Energysm*

Permit Issue Overview

- x **Key Issues**
 - x **Biological and Public Sensitivity of the Site**
 - x **Basic Permit Jurisdiction**
 - x **Federal or County/State**
 - x **Funding/land/transmission**
 - x **Jurisdiction determines process**
 - x **Environmental Review Process**
 - x **NEPA if Federal**
 - x **Screening if County/State**

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Wind Energy Impacts and Birds

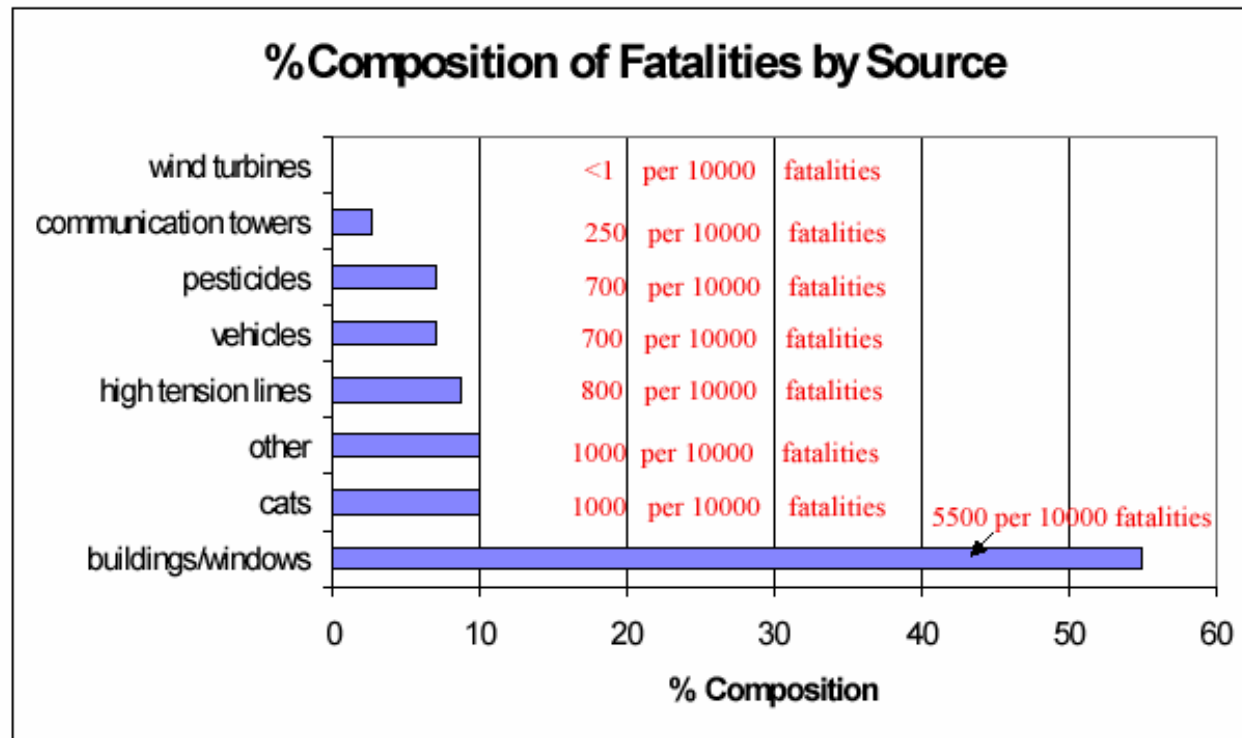


Figure 1. Estimated percent composition of annual bird mortality by source.



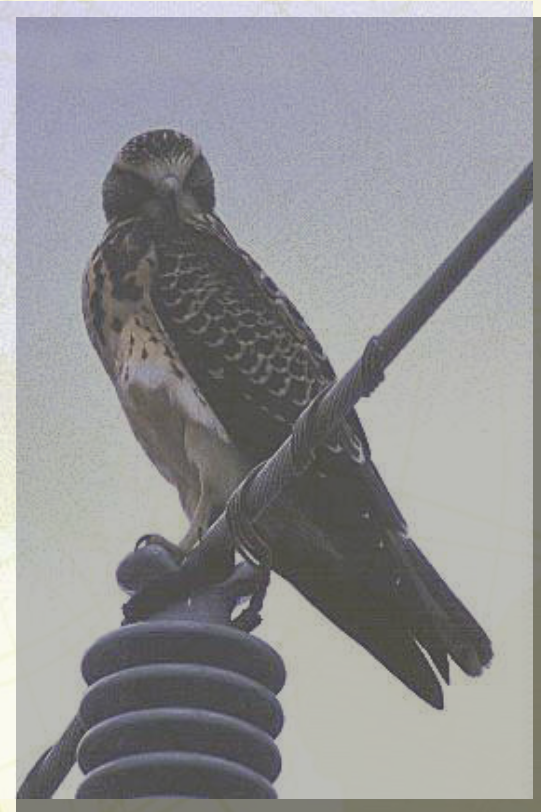
Biological and Public Sensitivity of Site

- x **Biological – Direct Impacts**
- x **Biological – Indirect + Habitat**
- x **Public – Cultural**
- Visual**
- Noise/Safety**
- Adjacent Land Use**
- Other Factors**



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Biological Regulatory Issues



- x **Federal Laws**
 - x **Endangered Species Act**
 - x **Migratory Bird Treaty Act**
 - x **Bald Eagle Protection Act**
- x **State Regulations**
- x **Wildlife Agency focus on Raptors**

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Biological Sensitivity of the Site

- x **Turbine Factors (height and location) determine biological studies**
- x **Biological T & E Surveys**
- x **Migratory Bird Use & Height**
- x **Raptor Use and Nest Locations**
- x **Habitat and High Use Areas**
- x **Location relative to Sensitive Areas, including Wetlands**
 - x **Big game potential impacts**
 - x **Bats are a new issue**



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Migrating Birds



- × **Flight height studies indicate vast majority of migrants fly above 330 feet (100 m)**
- × **1.5 MW and larger turbines may present greater risk due to heights > 330 feet**
- × **No large numbers of bird fatalities at single turbines have been documented**

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Biological Regulatory Review

- x **Colorado Division of Wildlife**
- x **US Fish & Wildlife Service**
- x **Presently Focused on:**
 - Site Specific Studies**
 - Assessment of Potential Impact**
 - Mitigation measures, if needed**
 - Post-Construction Monitoring**
- x **Costs and study time vary with study type**
- x **Use of BPA metadata analysis can shorten study time and reduce costs**



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Critical, non-obvious public issues affecting siting

- x Proximity to Public Airfields and Military Flight Routes May Eliminate Site**
- x Radar and Microwave Pathways**
- x Corps of Engineers Wetlands Jurisdiction**
- x Radio and TV Interference**



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Colorado Permitting - Typical



- x **County Special Use Permit – Land Use**
- x **One or two public hearings**
- x **State agencies may intervene if State interests are involved**
- x **Prior consultation with wildlife and historic agencies and screening studies may speed process**
- x **Focused environmental review**

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Colorado Permitting - Typical

- x **Examples of Other Permits**
 - x **NPDES Storm Water Construction Permit-State**
 - x **FAA Notice of Proposed Construction and Determination of Lighting**
 - x **Road Access**
 - x **Building/Construction**



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Recent Regulatory Issues



- × **USFWS Draft Voluntary Guidelines - Two Year Public Comment**
 - × **Site locations guidelines**
 - × **Site Biological comparisons**
- × **FAA lighting is under review**

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Addressing Impacts during Construction



- x **Identify Habitat to Avoid**
- x **Inform construction crews on Avoidance and penalties for violations**
- x **Notify Wildlife Agencies if avian fatalities occur**
- x **Plan for flexibility to address construction/wildlife conflicts as they arise**

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Operational Phase

- x **Monitor Bird Fatalities during first year**
- x **Train Employees about Endangered Species and habitat management**
- x **Review their compliance**

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Fatality monitoring

- x **Initiate monitoring after start of commercial operation**
- x **Follow protocols developed by NWCC and USFWS**
- x **Conduct 12 months of monitoring, prepare report**
- x **MBTA, BEPA, ESA citations/enforcements are rare if wind facility is proactive in minimizing avian risks**

- x **One-year Cost is \$25K to \$100K, depending on project size and sampling intensity**



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Recommendations

- x **Identify issues and public agency requirements early. Contact the agencies**
- x **Avoid issues, then mitigate as appropriate. Integrate these into the design process; prevent issues from becoming problems**
- x **Budget for mitigation and monitoring costs**
- x **Work with experienced team members**



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Questions

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